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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/521,292
Filing Date: January 11, 2005
Appellant(s): DANIEL ET AL.

MAILED
SEP 10 2007
GROUP 1700

James J. Napoli
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 21, 2007 appealing from the Office action mailed June 16, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,286,082

Tsubakimoto et al.

8-1981

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(b) as anticipated by Tsubakimoto et al. (U.S. Patent 4,286,082).

With regard to limitation of instant claims 1-4 and 8-9, Tsubakimoto discloses an **absorbent resin composition** obtained by copolymerizing in an aqueous solution a mixture of 100 parts by weight of an acrylate salt monomer (B) composed of 0 to 50 mol % of acrylic acid and 50 to 100 mol % of an alkali metal acrylate and 0.001 to 5 part by weight of a crosslinkable monomer (C) having 2 to 4 groups selected from the group consisting of $\text{CH}_2=\text{CHCO}-$, $\text{CH}_2=\text{C}(\text{CH}_3)\text{CO}-$ and $\text{CH}_2=\text{CH}-\text{CH}_2-$ in the molecule in the presence of at least one surface-active agent (A) (abstract).

Tsubakimoto discloses that the **acrylate salt monomer (B)** is composed of 0 to 50 mol % of acrylic acid and 50 to 100-mol % of an **alkali metal acrylate**. If the proportion of the alkali metal acrylate is less than 50 mol %, the resulting gel-like hydrous polymer is highly sticky and poorly releasable from the polymerization vessel,

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thus making its handling difficult at the time of cutting or shaping by an extruder, for example. That's why in the acrylate salt monomer (B) the proportion of the alkali metal acrylate may be **100 mol %** (col. 3, lines 20-30). If desired, part of the acrylic acid may be replaced with other water-soluble polymerizable carboxylic acid such as methacrylic acid (col. 3, lines 43-45).

Tsubakimoto discloses that examples of the alkali metal are those widely used, such as lithium, **sodium** or potassium. Sodium, in particular, is preferred in safety, in view of the fact that **sodium polyacrylate** is accepted as a food additive in Japan (col. 3, lines 46-50).

With regard to limitation of instant claim 5, Tsubakimoto discloses that the crosslinkable **monomer** (C) is having in one molecule 2 to 4 groups selected from the group consisting of $\text{CH}_2=\text{CHCO}-$, $\text{CH}_2=\text{C}(\text{CH}_3)\text{CO}-$ and $\text{CH}_2=\text{CH}-\text{CH}_2-$. Preferred as such crosslinkable monomer (C) is at least one member selected from the group consisting of **diacrylates** and **dimethacrylates** of ethylene glycol, **triacylates** and **tridimethacrylates** of trimethylolpropane, etc. Of these compounds, **N,N'-methylenebisacrylamide** or **trimethylolpropane triacrylate** is particularly preferred (col. 3, lines 51-66). The amount of the crosslinkable monomer (C) is **0.001 to 5 parts** by weight per 100 parts by weight of the acrylate salt monomer (B).

With regard to limitation of instant claim 10, Tsubakimoto discloses that in Example 3 the absorbent resin composition was prepared by the same procedure as in Example 1 (where **sodium acrylate** was used) except that an acrylate salt monomer

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(B) consisting of **potassium acrylate** was used (col. 8, lines 51-54 and Table 1, col. 11 and 12).

The initiator used in the aqueous-solution polymerization may be an ordinary water-soluble radical polymerization initiator. For example, ammonium persulfate, potassium persulfate, and **hydrogen persulfate** can be cited. There are also usable redox type initiators consisting of said initiators combined with reducing agents such as sodium hydrogensulfite, **L-ascorbic acid** or ferrous salts (col. 4, lines 63-68 and col. 5, lines 1-2).

Therefore, all the limitations of the instant claims 1-5 and 8-10 are expressly met by Tsubakimoto.

Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsubakimoto et al.

With regard to limitation of instant claims 6 and 7, Tsubakimoto does not disclose that aqueous monomer solution is prepared using solid anhydrous sodium acrylate and solid sodium acrylate has water content from 0.1% to 10% by weight. Claims 6 and 7 are drawn to the process although they contain the limitations of the product made by a specific process. Therefore, thus part is directed to a **product by process**, and it is believed that the product, i.e. sodium acrylate of Tsubakimoto is substantially the same as the sodium acrylate recited in claims 6 and 7, even though obtained by a different process, consult *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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Therefore, it is reasonable to believe that the aqueous monomer solutions for producing a sodium acrylate polymer in view of substantially identical monomer (**sodium acrylate**) and the solvent (**water**) (compare US'082, page 6, Table and the specification, page 12, tables 1 and 2) being used by both Tsubakimoto and the applicant are identical. Since the USPTO does not have proper equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise.

(10) Response to Argument

Applicants contend that the '082 patent (Tsubakimoto et al.) is directed to the standard prior art method of preparing an SAP. In particular, a solution of acrylic acid (AA) is partially neutralized with sodium hydroxide to provide a monomer solution containing sodium acrylate and unneutralized AA. The sodium acrylate is prepared *in situ* and is not added to the monomer solution as a solid, which is recited *element* of each of the original and pending claims. The '082 patent does not disclose how this monomer (b) was produced. The examples of '082 further state that a solution of sodium acrylate and AA was used (Example 1, col. 7, lines 32-38). The '082 patent contains no disclosure relating to using a solid sodium acrylate as the source of a monomer in the preparation of an SAP. Furthermore, Applicants contend that the '082 patent fails to teach or suggest using a solid sodium acrylate as a component to form a monomer solution (page 9, 3rd paragraph). Persons skilled in the art, after reading the '082 patent, would have had no motivation or incentive to substitute a solid sodium

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acrylate for sodium acrylate prepared in situ with any reasonable expectation of achieving the new and unexpected results achieved by presently claimed invention (pages 11-12).

The reference clearly teaches the usage of an aqueous solution of sodium acrylate (see examples 1-3, col. 7, line 29 through col. 8, line 61). As a matter of fact, there are only two main ways of the preparation of an aqueous solution of sodium acrylate:

1. mixing aqueous sodium hydroxide with acrylic acid, or
2. dissolving commercially available solid sodium acrylate, 97% [7446-81-3] (acrylic acid, sodium salt), FW 94.05, mp>300°C in an aqueous medium.

Therefore, as per In re Schaumann, 572 F.2d 312, 197 USPQ 5 (CCPA 1978), when the reference teaches a small genus (two species in this application) which places a claimed species in the possession of the public.

Regarding Applicants argument that the examiner misreads the meaning of "100 mol% of an alkali metal acrylate" (page 12, the last paragraph), it is noted that the '082 patent states that absorbent resin composition obtained by copolymerizing in an aqueous solution a mixture of **100 parts by weight** of an acrylate salt monomer (B) and 0.001 to 5 part by weight of a crosslinkable monomer (abstract).

Furthermore, it is worth to mention that sodium acrylate has the concentration of 97%, therefore it is practically solid (see www.sigma-aldrich.com).

In response to the arguments that the presently claimed invention provides unexpected results (page 14, 2nd paragraph), it is well settled that the Applicants have to

use the closest prior art to run a consecutive "back-to-back" test to show unexpected results, if any. "Showing unexpected results over one of two equally close prior art references will not rebut *prima facie* obviousness unless the teachings of the prior art references are sufficiently similar to each other that the testing of one showing unexpected results would provide the same information as to the other". *In re Johnson*, 747 F.2d 1456, 1461, 223 USPQ 1260, 1264 (Fed. Cir. 1984).

Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) ("It is well settled that unexpected results must be established by factual evidence." "[A]ppellants have not presented any experimental data showing that prior heat-shrinkable articles split. Due to the absence of tests comparing appellant's heat shrinkable articles with those of the closest prior art, we conclude that appellant's assertions of unexpected results constitute mere argument."). See also *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *Ex parte George*, 21 USPQ2d 1058 (Bd. Pat. App. & Inter. 1991). See MPEP 716.01(c).

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Michael M. Bernshteyn

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